AMENDMENTS

In the Claims:

Please cancel claim 44, without prejudice or disclaimer of the subject matter recited therein. Please amend claims 1, 4, 37, 39, and 47 as follows.

1. (Currently Amended) A compound of formula I

$$Ar \xrightarrow{S} \xrightarrow{R_1} \xrightarrow{R_2} \xrightarrow{R_2} \xrightarrow{R_3}$$

or a pharmaceutically-acceptable salt or prodrug thereof,

where R_1 , R_2 , R_3 , R_4 , and R_5 are each independently selected from

- a. hydrogen,
- b. halogen,
- c. alkyl,
- d. haloalkyl,
- e. alkoxy,
- f. cyano,
- g. nitro,
- h. carboxaldehyde,
- i. heterocyclylsulfanyl,
- j. "cis-cinnamide", and
- k. "trans-cinnamide",

where "cis-cinnamide" and "trans-cinnamide" are defined as

"trans-cinnamide",

where R₈ and R₉ are each independently selected from

- a. hydrogen,
- b. alkyl,
- c. carboxy alkyl,
- d. monoalkylaminocarbonyl alkyl, and
- e. dialkylaminocarbonyl alkyl,

and R_{10} and R_{11} are each independently selected from

- a. hydrogen,
- b. alkyl,
- c. cycloalkyl,
- d. alkoxycarbonylalkyl,
- e. hydroxyalkyl,
- f. substituted aryl,
- g. unsubstituted heterocyclyl,
- h. unsubstituted heterocyclylalkyl,
- i. heterocyclylamino,
- j. substituted heterocyclyl,
- k. substituted heterocyclylalkyl,
- I. unsubstituted aryl,
- m. arylalkyl,

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- n. carboxyalkyl, and
- o. alkoxyalkyl,

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or R₁₀ and R₁₁ are taken together with N to form an unsubstituted heterocyclyl or substituted heterocyclyl group, substituted by one or more than <u>at least</u> one substituent, each substitutent independently selected from

- 1) alkyl
- 2) alkoxy,
- 3) alkoxyalkyl,
- 4) cycloalkyl,
- 5) aryl,
- 6) heterocyclyl,
- 7) heterocyclylcarbonyl,
- 8) heterocyclylalkylaminocarbonyl,
- 9) hydroxy,
- 10) hydroxyalkyl,
- 11) hydroxyalkoxyalkyl,
- 12) carboxy,
- 13) carboxyalkyl,
- 14) carboxycarbonyl,
- 15) carboxaldehyde,
- 16) alkoxycarbonyl,
- 17) arylalkoxycarbonyl,
- 18) aminoalkyl,

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- 19) aminoalkanoyl,
- 20) carboxamido,
- 21) alkoxycarbonylalkyl,
- 22) carboxamidoalkyl,
- 23) cyano,
- 24) unsubstituted tetrazolyl,
- 25) substituted tetrazolyl,
- 26) alkanoyl,
- 27) hydroxyalkanoyl,
- 28) alkanoyloxy,
- 29) alkanoylamino,
- 30) alkanoyloxyalkyl,
- 31) alkanoylaminoalkyl,
- 32) sulfonate,
- 33) alkylsulfonyl,
- 34) alkylsulfonylaminocarbonyl,
- 35) arylsulfonylaminocarbonyl,
- 36) heterocyclylsulfonylaminocarbonyl,
- 37) alkenoxycarbonyl, X
- 38) alkoxycarbonylalkylaminocarbonyl,
- 39) aryl(carboxy)alkylaminocarbonyl,
- 40) carboxyalkylaminocarbonyl,
- 41) heterocyclylalkyl,

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- 42) hydroxyalkylaminocarbonyl,
- 43) hydroxyaminocarbonyl,
- 44) hydroxy(carboxy)alkylaminocarbonyl,
- 45) hydroxy(carboxy)alkylcarbonyl, and
- 46) sulfoalkylaminocarbonyl,

and where Ar is an unsubstituted aryl or unsubstituted heteroaryl group, or a substituted aryl or substituted heteroaryl group, substituted by one or more than at least one substituent, each substituent independently selected from

- a. halogen,,
- b. alkyl, '
- c. aryl,
- d. haloalkyl,
- e. hydroxy,
- f. alkoxy,
- g. alkoxyalkyl,
- h. alkoxycarbonyl,
- i. alkoxyalkoxy,
- j. hydroxyalkyl,
- k. aminoalkyl,
- I. aminocarbonyl,
- m. alkyl(alkoxycarbonylalkyl)aminoalkyl,
- n. unsubstituted heterocyclyl,
- o. substituted heterocyclyl,

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- p. unsubstituted heterocyclylalkyl,
- q. substituted heterocyclylalkyl,
- r. carboxaldehyde,
- s. carboxaldehyde hydrazone,
- t. carboxamide,
- u. alkoxycarbonylalkyl,
- v. carboxy, `
- w. carboxyalkyl,
- x. carboxyalkoxy,
- y. carboxythioalkoxy,
- z. carboxycycloalkoxy
- aa. alkylsulfanyl,
- bb. hydroxycarbonylalkyl (carboxyalkyl),
- cc. hydroxyalkylaminocarbonyl,
- dd. cyano,
- ee. amino,
- ff. heterocyclylalkylamino,
- gg. carboxyalkylamino, X
- hh. carboxyalkenyl, 🏒
- ii. alkoxycarbonylalkenyl
- jj. heterocyclylalkylaminocarbonyl, and
- kk. "trans-cinnamide",

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subject to the provisos that:

- i) one or more than at least one of R_1 or R_3 is a "cis-cinnamide" or a "trans-cinnamide", as defined above, and
- ii) when R3 is a "cis-cinnamide" or a "trans-cinnamide," and R $_8$ is alkyl, then
 - (A) one or more than at least one of R_1 , R_2 , R_4 , and R_5 is other than hydrogen when Ar is an unsubstituted aryl group, or
 - (B) Ar is a substituted aryl group, when all of R_1 , R_2 , R_4 , and R_5 are hydrogen.
- 2. (Previously Amended) A compound according to Claim 1 where R_1 is a "ciscinnamide" or a "trans-cinnamide", and R_3 is hydrogen.
- 3. (Previously Amended) A compound according to Claim 1 where R_3 is a "ciscinnamide" or a "trans-cinnamide", and R_1 is hydrogen.
- 4. (Currently Amended) A compound according to Claim 1 where R₃ is a "ciscinnamide" or a "trans-cinnamide", and one or more than at least one of R₁, R₈, and R₉ are each hydrogen.
- 5. (Previously Amended) A compound according to Claim 4 where R₃ is a "ciscinnamide".

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- 6. (Previously Amended) A compound according to Claim 4 where R_3 is a "transcinnamide".
- 7. (Previously Amended) A compound according to Claim 1 where R_3 is a "ciscinnamide" or a "trans-cinnamide", R_1 , R_2 , and R_4 are each independently selected from hydrogen and alkyl; and R_5 is halogen, haloalkyl, or nitro.
- 8. (Previously Amended) A compound according to Claim 4 where Ar is a substituted aryl or substituted heteroaryl.
- 9. (Previously Amended) A compound according to Claim 4 where R₁₀ and R₁₁ are each independently selected from hydrogen, alkyl, cycloalkyl, alkoxycarbonylalkyl, hydroxyalkyl, and heterocyclylalkyl.
- 10. (Previously Amended) A compound according to Claim 4 where R₁₀ and R₁₁ are taken together with N to form an unsubstituted heterocyclyl or substituted heterocyclyl group.
- 11. (Previously Amended) A compound according to Claim 8 where Ar is a substituted aryl or substituted heteroaryl group selected from phenyl, 1,3-benzimidazol-

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2-one, 1,4-benzodioxane, 1,3-benzodioxole, 1-benzopyr-2-en-4-one, indole, isatin, 1,3-quinazolin-4-one, and quinoline.

- 12. (Previously Amended) A compound according to Claim 1 selected from:
- (2,4-Dichlorophenyl)[2-(E-((6-hydroxyhexylamino)carbonyl)ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-(E-((3-(1-imidazolyl)propylamino)carbonyl)ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-chloro-4-(*E*-((2-hydroxyethylamino)carbonyl)ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-chloro-4-(*E*-((6-hydroxyhexylamino)carbonyl)ethenyl)phenyl] sulfide:
- (2,4-Dichlorophenyl)[2-chloro-4-(*E*-((bis-(2-hydroxyethyl)amino)carbonyl)ethenyl) phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-chloro-4-(*E*-((3-(2-oxopyrrolidin-1-yl)propylamino)carbonyl) ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-chloro-4-(E-((1-morpholinyl)carbonyl)ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-chloro-4-(*E*-((4-methylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-chloro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-chloro-4-(*E*-((4-(2-pyridyl)piperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;

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- (2-(Hydroxymethyl)phenyl)[2-chloro-4-(E-((1-morpholinyl)carbonyl) ethenyl)phenyl] sulfide;
- (2-Bromophenyl)[2-chloro-4-(E-((1-morpholinyl)carbonyl) ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-chloro-4-(*E*-((4-(2-hydroxyethyl)piperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-chloro-4-(*E*-((4-(2-hydroxyethoxyethyl)piperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2-Bromophenyl)[2-chloro-4-(*E*-((3-(hydroxymethyl)piperidin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2-Bromophenyl)[2-chloro-4-(E-((2-(hydroxymethyl)piperidin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2-Bromophenyl)[2-chloro-4-(E-((3-acetamidopyrrolidin-1-yl)carbonyl)ethenyl)phenyl] sulfide;
- (2-Bromophenyl)[2-chloro-4-(*E*-((4-hydroxypiperidin-1-yl)carbonyl)ethenyl)phenyl] sulfide;
- (2-Bromophenyl)[2-chloro-4-(E-((piperidin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-chloro-4-(*E*-((3-carboxypiperidin-1-yl)carbonyl)ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-chloro-4-(*E*-((4-carboxypiperidin-1-yl)carbonyl)ethenyl)phenyl] sulfide;
- (2-Bromophenyl)[2-chloro-4-(*E*-((4-acetylhomopiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;
- (2-Bromophenyl)[2-chloro-4-(E-((thiomorpholin-1-yl)carbonyl)ethenyl)phenyl] sulfide;

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- (2-Bromophenyl)[2-chloro-4-(E-((4-(2-oxo-2,3-dihydro-1H-benzimidazol-1-yl)piperidin-1-yl)carbonyl)ethenyl)phenyl] sulfide;
- (2-Bromophenyl)[2-chloro-4-(*E*-((2-tetrahydroisoquinolinyl)carbonyl)ethenyl)phenyl] sulfide;
- (2-Methylphenyl)[2-trifluoromethyl-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2-Methylphenyl)[2-trifluoromethyl-4-(*E*-((1-morpholinyl)carbonyl)ethenyl)phenyl] sulfide:
- (2-Methylphenyl)[2-trifluoromethyl-4-(*E*-((2-(1-morpholinyl)ethylamino)carbonyl) ethenyl)phenyl] sulfide;
- (2-Methylphenyl)[2-trifluoromethyl-4-(*E*-((4-phenylpiperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2-Methylphenyl)[2-trifluoromethyl-4-(*E*-((3-(2-oxopyrrolidin-1-yl)propylamino) carbonyl) ethenyl)phenyl] sulfide;
- (2-Methylphenyl)[2-trifluoromethyl-4-(*E*-((cyclopropylamino)carbonyl)ethenyl) phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-nitro-4-(E-((3-(2-oxopyrrolidin-1-yl)propylamino)carbonyl) ethenyl)phenyl] sulfide;
- (2,3-Dichlorophenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;
- (4-Bromophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl]

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sulfide;

- (4-Methylphenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-nitro-4-(*E*-((4-(*tert*-butoxycarbonyl)piperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-nitro-4-(*E*-((4-(2-furoylcarbonyl)piperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-nitro-4-(*E*-((4-(methanesulfonyl)piperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-nitro-4-(*E*-((4-(diethylaminocarbonylmethyl)piperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-nitro-4-(*E*-((4-(diethylaminocarbonyl)piperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-nitro-4-(*E*-((4-(*tert*-butoxycarbonylmethyl)piperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-nitro-4-(E-((4-(carboxycarbonyl)piperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2,4-Dichlorophenyl)[2-nitro-4-(*E*-((4-(carboxymethyl)piperazin-1-yl)carbonyl) ethenyl)phenyl] sulfide;
- (2-Methylphenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;
- (2-Chlorophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;

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(2-Aminophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;

(2-Hydroxymethylphenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl]sulfide;

(2-Ethylphenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;

(2-iso-Propylphenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;

(2-tert-Butylphenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;

(2-Chlorophenyl)[2-chloro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl))2-propenyl)phenyl] sulfide;

(2-(1-Morpholinylmethyl)phenyl)[2-chloro-4-(E-((1-morpholinyl)carbonyl) ethenyl) phenyl] sulfide;

(2-(4-(1,3-Benzodioxolyl-5-methyl)piperazin-1-ylmethyl)phenyl)[2-chloro-4-(*E*-((1-morpholinyl)carbonyl) ethenyl)phenyl] sulfide;

(2-(4-(iso-Propylaminocarbonylmethyl)piperazin-1-ylmethyl)phenyl)[2-chloro-4-(*E*-((1-morpholinyl)carbonyl) ethenyl)phenyl] sulfide;

(2-((*N*-Ethoxycarbonylmethyl-*N*-methyl)aminomethyl)phenyl)[2-chloro-4-(*E*-((1-morpholinyl)carbonyl) ethenyl)phenyl] sulfide;

 $(2\hbox{-}Formylphenyl) [2\hbox{-}chloro-4\hbox{-}(E\hbox{-}((1\hbox{-}morpholinyl)carbonyl)ethenyl) phenyl] \ sulfide;$

(2-(4-Formylpiperazin-1-ylmethyl)phenyl)[2-chloro-4-(*E*-((1-morpholinyl)carbonyl) ethenyl)phenyl] sulfide;

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(2-(E-((1-Morpholinyl)carbonyl)ethenyl)phenyl)[2-chloro-4-(E-((1-morpholinyl)carbonyl)ethenyl)phenyl] sulfide;

(2-Formylphenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;

(2-Formylphenyl)[2-chloro-4-(*E*-((1-morpholinyl)carbonyl)ethenyl)phenyl] sulfide, N,N-dimethyl hydrazone;

(2-((3-(1-Morpholinyl)propyl)-1-amino)phenyl)[2-chloro-4-(*E*-((1-morpholinyl)carbonyl) ethenyl)phenyl] sulfide;

(2,4-Dichlorophenyl)[2-bromo-4-(*E*-((3-(2-oxopyrrolidin-1-yl)propylamino)carbonyl) ethenyl)phenyl] sulfide;

(2,4-Dichlorophenyl)[2-formyl-4-(E-((1-morpholinyl)carbonyl)ethenyl)phenyl] sulfide;

(2-Chloro-6-formylphenyl)[2-chloro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Cyanophenyl)[2-chloro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl) ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-cyano-4-(*E*-((morpholin-1-yl)carbonyl) ethenyl) phenyl] sulfide;

(2-Bromophenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl) ethenyl) phenyl] sulfide;

(2-(Pyrrolidin-1-yl)phenyl)[2-chloro-4-(*E*-((morpholin-1-yl)carbonyl) ethenyl) phenyl] sulfide;

- (2-Methoxyphenyl)-[2-chloro-4-(E-[(morpholin-1-yl)carbonyl]ethenyl)phenyl]sulfide;
- (2-Isopropylphenyl)[2-nitro-4-(E-((3-carbomethoxypiperazin-1-yl)carbonyl)

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ethenyl) phenyl] sulfide; (2-Methylphenyl)[2-nitro-4-(E-((3-carboxamido-4-carbobenzoxypiperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((2-carbomethoxy-4-tert-butoxycarbonylpiperazin-1yl)carbonyl)ethenyl) phenyll sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((2-carboxy-4-tert-butoxycarbonylpiperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-trifluoromethyl-4-(E-((4-acetylpiperazin-1-yl)carbonyl) ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-trifluoromethyl-4-(E-((morpholin -1-yl)carbonyl) ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-trifluoromethyl-4-(E-((3-(2-oxopyrrolidin-1-yl)prop-1ylamino)carbonyl) ethenyl)phenyl]sulfide; (2-Isopropylphenyl)[2-trifluoromethyl-4-(E-((cyclobutylamino)carbonyl) ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-trifluoromethyl-4-(E-((cyclopentylamino)carbonyl) ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-trifluoromethyl-4-(E-((5-hydroxypent-1-ylamino)carbonyl) ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-carbomethoxy-4-acetylpiperazin-1-

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yl)carbonyl)ethenyl) phenyl] sulfide;

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(2-Biphenyl)[2-chloro-4-(E-((morpholin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

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(3,4-Dimethylphenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-
yl)carbonyl)ethenyl)phenyl]sulfide;
(2-Bromophenyl)[2-trifluoromethyl-4-(E-((4-acetylpiperazin-1-yl)carbonyl)
ethenyl) phenyl] sulfide;
(5-Indolyl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)
ethenyl) phenyl] sulfide;
(5-Benzodioxolyl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)
ethenyl) phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((2-carbomethoxypiperazin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
(2,3-Dimethoxyphenyl)-[2-chloro-4-(E-[(morpholin-1-yl)carbonyl]ethenyl)phenyl] sulfide;
(2-Fluorophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl]sulfide;
(2-Bromophenyl)[2-trifluoromethyl-4-(E-((4-(tert-butoxycarbonyl)piperazin-1-
vI)carbonyI)ethenyI) phenyI] sulfide;
(2-(Pyrrolidin-1-yl)phenyl)[2-trifluoromethyl-4-(E-((4-(tert-butoxycarbonyl)piperazin-1-
yl)carbonyl)ethenyl) phenyl] sulfide;
(3-Carboxamidophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)
ethenyl) phenyl] sulfide;
(3-(Hydroxymethyl)phenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)
ethenyl) phenyl] sulfide;
Phenyl[2-trifluoromethyl-4-(E-((4-(tert-butoxycarbonyl)piperazin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
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(2-Isopropylphenyl)[2-trifluoromethyl-4-(E-((2-carbomethoxy-4-(tertbutoxycarbonyl)piperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(pyridine-4-methylaminocarbonyl)-4-tertbutoxycarbonylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Ethoxyphenyl)-[2-chloro-4-(E-[(morpholin-1-yl)carbonyl]ethenyl)phenyl]sulfide; (2-Methoxyphenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl]sulfide; (2-(Azetidin-1-yl)phenyl)[2-trifluoromethyl-4-(E-((4-(tert-butoxycarbonyl)piperazin-1vI)carbonyI)ethenyI) phenyI] sulfide; (2-(Piperidin-1-yl)phenyl)[2-trifluoromethyl-4-(E-((4-(tert-butoxycarbonyl)piperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (3-Chloro-2-formylphenyl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl) ethenyl) phenyl] sulfide; (2-Trifluoromethylphenyl)[2-trifluoromethyl-4-(E-((4-acetylpiperazin-1-yl)carbonyl) ethenyl) phenyl] sulfide; (3-Bromophenyl)[2-trifluoromethyl-4-(E-((4-acetylpiperazin-1-yl)carbonyl) ethenyl) phenyl] sulfide; (3,5-Dimethylphenyl)[2-trifluoromethyl-4-(E-((4-acetylpiperazin-1-yl)carbonyl) ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-dimethylaminocarbonyl-4-(pyridine-4carbonyl)piperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-dimethylaminocarbonyl-4-carbomethoxypiperazin-1-

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yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(E-((3-dimethylaminocarbonyl-4-acetylpiperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(1-morpholinocarbonyl)-4-tertbutoxycarbonylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(pyridine-4-methylaminocarbonyl)piperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-(((3-dimethylaminocarbonyl)piperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(benzylaminocarbonyl)-4-tertbutoxycarbonylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(dimethylaminocarbonyl)-4-tertbutoxycarbonylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Bromophenyl)[2-chloro-4-(E-((3-(5S-hydroxymethyl-2-oxopyrrolidin-1-yl)prop-1vlamino)carbonyl) ethenyl)phenyl]sulfide; (2-Bromophenyl)[2-chloro-4-(E-((3-(2-oxopyrrolidin-1-yl)prop-1-ylamino)carbonyl) ethenyl)phenyl]sulfide; (2-Bromophenyl)[2-chloro-4-(E-(N-methyl-N-(3-(2-oxyopyrrolidin-1-yl)prop-1yl)amino)carbonyl) ethenyl)phenyl]sulfide; (2-[2-Methoxy]ethoxyphenyl)-[2-chloro-4-(E-[(morpholin-1-yl)carbonyl]ethenyl)phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(morpholinocarbonyl)piperazin-1yl)carbonyl)ethenyl) phenyl] sulfide;

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(2-Isopropylphenyl)[2-nitro-4-(E-((4-tert-butoxycarbonylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((4-methoxycarbonylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-(4-(pyridine-4-carbonyl)piperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide: (2-Isopropylphenyl)[2-nitro-4-(E-((3-(pyridine-3-methylaminocarbonyl)-4-tertbutoxycarbonylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(pyridine-2-methylaminocarbonyl)piperazin-1vI)carbonyI)ethenyI) phenyI] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(pyridine-3-methylaminocarbonyl)piperazin-1vI)carbonyI)ethenyI) phenyI] sulfide; $(4-Hydroxyphenyl)[2-nitro-4-(\emph{E-}((4-acetylpiperazin-1-l)carbonyl)ethenyl)phenyl] sulfide;\\$ (3,5-Dichlorophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1yl)carbonyl)ethenyl)phenyl]sulfide; (2-Bromophenyl)[2-chloro-4-(E-((3-(5S-acetoxymethyl-2-oxopyrrolidin-1-yl)prop-1vlamino)carbonyl) ethenyl)phenyl]sulfide; (2-Bromophenyl)[2-chloro-4-(E-((3-(5S-methoxymethyl-2-oxopyrrolidin-1-yl)prop-1ylamino)carbonyl) ethenyl)phenyl]sulfide; (2-Bromophenyl)[2-chloro-4-(E-((3-(4R-hydroxy-2-oxopyrrolidin-1-yl)prop-1ylamino)carbonyl) ethenyl)phenyl]sulfide; Phenyl[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl]sulfide;

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(2-Dimethylaminophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)

ethenyl) phenyl] sulfide;

(3-((2-Hydroxyethyl)aminocarbonyl)phenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(3-((3-(1-Imidazolyl)propyl)aminocarbonyl)phenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(3-((2-(1-Morpholinyl)ethyl)aminocarbonyl)phenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((3-hydroxymethyl-4-*tert*-butoxycarbonylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((4-formylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((2-hydroxymethyl-4-*tert*-butoxycarbonylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Ethoxyphenyl)-[2-chloro-4(E-[(3-ethoxycarbonylpiperidin-1-yl)carbonyl]ethenyl) phenyl]sulfide;

(3- Aminophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl]sulfide;

(4-Aminophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl]sulfide;

(2,4-Dimethylphenyl)[2- nitro-4-(E-((4-acetylpiperazin-1-

yl)carbonyl)ethenyl)phenyl]sulfide;

(2,5-Dimethylphenyl)[2- nitro-4-(E-((4-acetylpiperazin-1-

yl)carbonyl)ethenyl)phenyl]sulfide;

(4-Methoxyphenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl]sulfide;

(3-Chlorophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl]sulfide;

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(2-Chloro-4,5-diaminophenyl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (3,4-Diaminophenyl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl]sulfide; (6-Chloro-2-oxo-2,3-dihydro-1H-benzimidazol-5-yl)[2-chloro-4-(E-((4-acetylpiperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (1-Methylindol-7-yl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide: (2-Hydroxy-4-aminophenyl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((4-methylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((4-(pyridine-2-carbonyl)piperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((4-(pyridine-3-carbonyl)piperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((2-carbomethoxy-4-methoxycarbonylpiperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((2-carboxy-4-methoxycarbonylpiperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-carbomethoxy-4-methylpiperazin-1-

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1300 I Street, NW Washington, DC 20005 202.408.4000 Fax 202.408.4400 www.finnegan.com yl)carbonyl)ethenyl) phenyl] sulfide;

- (2-Ethoxyphenyl)-[2-chloro-4-(*E*-[(3-carboxypiperidin-1-yl)carbonyl]ethenyl)phenyl] sulfide;
- (2-Ethoxyphenyl)-[2-chloro-4-(*E*-[(2-ethoxycarbonylpiperidin-1-yl)carbonyl]ethenyl) phenyl]sulfide;
- (2-Ethoxyphenyl)[2-trifluoromethyl-4-(*E*-((1-(*tert*-butoxycarbonyl)-4-hydroxypyrrolidin-3-ylamino)carbonyl)ethenyl) phenyl] sulfide;
- (2-Ethoxyphenyl)-[2-chloro-4(*E*-[(2-carboxypiperidin-1-yl)carbonyl]ethenyl)phenyl] sulfide;
- (2-Ethoxyphenyl)[2-trifluoromethyl-4-(*E*-(((pyrrolidin-3-ene-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-Ethoxyphenyl)[2-trifluoromethyl-4-(*E*-((3-(2-oxopyrrolidin-1-yl)prop-1-ylamino)carbonyl) ethenyl)phenyl]sulfide;
- (2-Ethoxyphenyl)[2-trifluoromethyl-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-Ethoxyphenyl)[2-trifluoromethyl-4-(*E*-((4-(ethoxycarbonyl)piperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-Ethoxyphenyl)[2-trifluoromethyl-4-(*E*-((4-(2-furylcarbonyl)piperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-Ethoxyphenyl)-[2-chloro-4-(*E*-[(3-ethoxycarbonylpiperidin-1-yl)carbonyl]ethenyl) phenyl]sulfide;
- (2-Ethoxyphenyl)-[2-chloro-4-(*E*-[(4-carboxypiperidin-1-yl)carbonyl]ethenyl)phenyl] sulfide;

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(Benzodioxan-6-yl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl]
sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((4-ethoxycarbonylpiperazin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((4-isopropoxycarbonylpiperazin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((4-isobutoxycarbonylpiperazin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((4-((1-propen-2-oxy)carbonyl)piperazin-1-
yl)carbonyl)ethenyl) phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((4-propionylpiperazin-1-yl)carbonyl)ethenyl) phenyl]
sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((4-carboxamidopiperazin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((4-methylaminocarbonylpiperazin-1-
yl)carbonyl)ethenyl) phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((4-(pyrimidin-2-yl)piperazin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
(2-lsopropylphenyl)[2-nitro-4-(\textit{E-}((4-hydroxyacetylpiperazin-1-yl)carbonyl)ethenyl)\\
phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((4-(pyrazine-2-carbonyl)piperazin-1-
yl)carbonyl)ethenyl) phenyl] sulfide;
(2-Isopropylphenyl)[2-trifluoromethyl-4-(E-(((2-carboxypyrrol-3-ene-1-
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yl)carbonyl)ethenyl) phenyl] sulfide methyl ester; (2-Isopropylphenyl)[2-nitro-4-(E-((3-hydroxymethyl-4-methylpiperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-trifluoromethyl-4-(E-(((2-carboxypyrrol-3-ene-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-trifluoromethyl-4-(E-(((2-hydroxymethylpyrrolidin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-methylaminocarbonyl)piperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-(((3-cyclopropylaminocarbonyl)piperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-carboxamidopiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-carbomethoxy-4-oxopiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3,5-dimethylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (1-Ethylindol-7-yl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (3-[2-Methoxy]ethoxyphenyl)-[2-chloro-4-(E-[(morpholin-1-yl)carbonyl]ethenyl)phenyl] sulfide; (2-Bromophenyl)[2-chloro-4-(E-((4,4'-S-dioxythiomorpholin-1-yl)carbonyl)

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ethenyl)phenyl]sulfide;

- (2-Bromophenyl)[2-chloro-4-(E-(N-carbomethoxymethyl-N-(3-(2-oxopyrrolidin-1-yl)prop-1-yl)amino)carbonyl) ethenyl)phenyl]sulfide;
- (2-Bromophenyl)[2-chloro-4-(E-((4-S-oxythiomorpholin-1-yl)carbonyl) ethenyl)phenyl]sulfide;
- (2-Methoxy-5-chlorophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-Isopropylphenyl)[2-nitro-4-(*E*-((3-acetoxymethyl)piperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-Isopropylphenyl)[2-nitro-4-(E-((3,5-dimethyl-4-acetyl-piperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (1-Methylindol-5-yl)[2-chloro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (Benzodioxan-6-yl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (Benzodioxan-6-yl)[2-nitro-4-(E-((3-(2-oxopyrrolidin-1-yl)prop-1-ylamino)carbonyl) ethenyl)phenyl]sulfide;
- (Benzodioxan-6-yl)[2-nitro-4-(*E*-((3-carboethoxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;
- (Benzodioxan-6-yl)[2-nitro-4-(*E*-((4-carboethoxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;
- (2-Ethoxyphenyl)[2-trifluoromethyl-4-(*Z*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-Ethoxyphenyl)[2-trifluoromethyl-4-(E-((6-methylpyrid-2-ylamino)carbonyl)ethenyl)

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phenyl] sulfide;

(2-Methyl-3-chlorophenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-nitro-4-(*E*-((3-carboxamidopiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-nitro-4-(*E*-((2-carboethoxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-nitro-4-(*E*-((4-carboxamidopiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-nitro-4-(*E*-((4-*tert*-butoxycarbonylpiperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(2-lsopropylphenyl)[2-nitro-4-(E-((syn-3,5-dimethylmorpholin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((*anti*-3,5-dimethylmorpholin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((3-carboethoxypiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((3-isopropoxycarbonylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((3-(dimethylaminocarbonyl)-4-methylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((3-carbomethoxy-4-hydroxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

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(2-Isopropylphenyl)[2-nitro-4-(E-((3-hydroxymethyl-4-hydroxypiperidin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Ethoxyphenyl)[2-trifluoromethyl-4-(E-((2-carbomethoxy-4-(methoxycarbonyl)piperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Ethoxyphenyl)[2-trifluoromethyl-4-(E-((2-carbomethoxy-4-methyl piperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Ethoxyphenyl)[2-trifluoromethyl-4-(E-((2-carboxy-4-(methoxycarbonyl)piperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (Indol-6-yl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (1-Ethyl-3-(dimethylaminomethyl)indol-7-yl)[2-chloro-4-(E-((4-acetylpiperazin-1vI)carbonyI)ethenyI) phenyI] sulfide; (5-Ethoxybenzodioxan-6-yl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Ethyl-4-bromophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-nitro-4-(E-((2-carboxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-nitro-4-(E-((4-carboxymethylpiperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide; (3-Morpholinophenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide: (5-Ethoxybenzodioxan-8-yl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)

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phenyl] sulfide;

(5-Chloro-8-ethoxyquinolin-7-yl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-carboethoxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-carboxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-(((3-ethanesulfonylaminocarbonyl)piperidin-1vI)carbonyI)ethenyI) phenyI] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-(((3-(4-methylpiperazine) sulfonylaminocarbonyl)piperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-(((3-p-toluenesulfonylaminocarbonyl)piperidin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-methyl-4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Hydroxyphenyl)-[2-chloro-4-(E-[(morpholin-1-yl)carbonyl]ethenyl)phenyl]sulfide; (1-(Carboxymethyl)indol-5-yl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide; (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(2-oxopyrrolidin-1-yl)prop-1-ylamino) carbonyl)ethenyl) phenyl] sulfide; 1300 | Street, NW 2 (3-(2-Morpholinoethylamino)phenyl)[2-trifluoromethyl-4-(E-((4-acetylpiperazin-1-

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yl)carbonyl)ethenyl) phenyl] sulfide;

- (2-Pyrrolidin-1-ylphenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (3-Bromophenyl)[2-nitro-4-(*E*-((3-carboethoxypyrrolidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (3-Bromophenyl)[2-nitro-4-(*E*-((4-carboethoxypyrrolidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-(Hydroxymethyl)-benzodioxan-6-yl)[2-chloro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((3-(2-oxopyrrolidin-1-yl)prop-1-ylamino)carbonyl) ethenyl)phenyl]sulfide;
- (3-(Dimethylaminomethyl)indol-5-yl)[2-chloro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-Isopropylphenyl)[2-nitro-4-(*E*-((2-carboethoxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-Isopropylphenyl)[2-nitro-4-(*E*-((2-carboxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-Isopropylphenyl)[2-nitro-4-(*E*-((4-carboethoxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-Isopropylphenyl)[2-nitro-4-(*E*-((4-carboxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
- (2-Isopropylphenyl)[2-nitro-4-(*E*-(((4-*p*-toluenesulfonylaminocarbonyl)piperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

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(2-Isopropylphenyl)[2-nitro-4-(E-((3-carboxy-4-hydroxypiperidin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
 (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((3-carboethoxypiperidin-1-yl)
carbonyl)ethenyl) phenyl] sulfide;
(Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((2-carboethoxypiperidin-1-yl)
carbonyl)ethenyl) phenyl] sulfide;
 (Benzodioxan-6-yl)[2-nitro-4-(E-((4-carboxypiperidin-1-yl) carbonyl)ethenyl) phenyll
sulfide;
 (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((3-carboxypyrrolidin-1-yl)carbonyl)ethenyl)
 phenyl] sulfide;
 (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((4-carboethoxypiperidin-1-yl)
 carbonyl)ethenyl) phenyl] sulfide;
 (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((2-carbomethoxy-4-tert-
 butoxycarbonylpiperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide;
 (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((2-carbomethoxy-4-
 methoxycarbonylpiperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide;
 (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((2-carbomethoxypiperazin-1-yl)
 carbonyl)ethenyl) phenyl] sulfide;
 (2-Methyl-3-(carboethoxymethyl)indol-5-yl)[2-trifluoromethyl-4-(E-((morpholin-1-
 yl)carbonyl)ethenyl) phenyl] sulfide;
(1-(2-Methoxyethyl))indol-5-yl)[2-chloro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)
 phenyl] sulfide;
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(2-Isopropylphenyl)[2-nitro-4-(E-((3-acetoxymethyl-4-hydroxypiperidin-1-
yl)carbonyl)ethenyl) phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((3-(dimethylaminocarbonyl)-4-hydroxypiperidin-1-
yl)carbonyl)ethenyl) phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((3-cyanomorpholin-1-yl)carbonyl)ethenyl) phenyll
sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((3-carboethoxymorpholin-1-yl)carbonyl)ethenyl)
phenyll sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((3-(tetrazol-5-yl)morpholin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
(Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((4-carboxypiperidin-1-yl) carbonyl)ethenyl)
phenyl] sulfide;
(Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((2-carboxypiperidin-1-yl) carbonyl)ethenyl)
phenyl] sulfide;
(Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((4-carbomethoxypiperazin-1-yl)
carbonyl)ethenyl) phenyl] sulfide;
(Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((3-aza-6,9-dioxaspiro[5.4]decan-1-
yl)carbonyl)ethenyl) phenyl] sulfide;
(Benzodioxan-6-yl)[2-trifluoro-4-(E-((4-(2-oxo-2,3-dihydro-1H-benzimidazole-1-
vI)piperidin-1-yI)carbonyI)ethenyI) phenyI] sulfide;
(Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((4-(methylaminocarbonyl)piperidin-1-
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yl)carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((3-carbomethoxy-4methoxycarbonylpiperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-carboxymorpholin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((2-carboxy-4-methoxycarbonylpiperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((morpholin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((4-(pyrrolidin-1-yl)piperidin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-aza-6,9-dioxaspiro[5.4]decan-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((2-(dimethylaminomethyl)piperidin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((piperidin-1-ylamino)carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((3-carboxy-4-methoxycarbonylpiperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide; (2-(Dimethylaminocarbonyl)-benzodioxan-6-yl)[2-chloro-4-(E-((4-acetylpiperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(2-(methoxymethyl)tetrazol-5-yl) piperidin-1yl)carbonyl)ethenyl) phenyl] sulfide; /(2-Isopropylphenyl)[2-nitro-4-(E-((3-(1-(methoxymethyl)tetrazol-5-yl) piperidin-1-

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yl)carbonyl)ethenyl) phenyl] sulfide;

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(1-Methylindol-5-yl)[2-chloro-4-(E-((3-(2-oxopyrrolidin-1-yl)propylamino)
carbonyl)ethenyl) phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((3-(tetrazol-5-yl) piperidin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
(1-Methylindol-5-yl)[2-chloro-4-(E-((3-carboethoxypiperidin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
(1-Methylindol-5-yl)[2-chloro-4-(E-((3-carboxypiperidin-1-yl)carbonyl)ethenyl) phenyl]
sulfide;
(1-Methylindol-5-yl)[2-chloro-4-(E-((4-carboethoxypiperidin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
(1-Methylindol-5-yl)[2-chloro-4-(E-((4-carboxypiperidin-1-yl)carbonyl)ethenyl) phenyl]
sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((2-(1-methylpyrrolidin-2-
yl)ethylamino)carbonyl)ethenyl) phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((4-(pyrrolidin-1-yl)piperidin-1-yl)carbonyl)ethenyl)
phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((4-sulfopiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;
(2-Isopropylphenyl)[2-nitro-4-(E-((3-hydroxypiperidin-1-yl)carbonyl)ethenyl) phenyl]
sulfide;
(Benzodioxan-6-vI)[2-trifluoromethyl-4-(E-((3-((ethanesulfonylamino)carbonyl)piperidin-
1-yl) carbonyl)ethenyl) phenyl] sulfide;
(Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((3-((p-
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toluenesulfonylamino)carbonyl)piperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((4-((ethanesulfonylamino)carbonyl)piperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((2-(tetrazol-5-yl)morpholin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((2-butyl-5-(tetrazol-5-yl)morpholin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-(and 3-)(Hydroxymethyl)-benzodioxan-6-yl)[2-nitro-4-(E-((4-acetylpiperazin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-(and 3-)(Hydroxymethyl)-benzodioxan-6-yl)[2-nitro-4-(E-((3-(2-oxopyrrolidin-1yl)prop-1-ylamino)carbonyl) ethenyl)phenyl]sulfide; (2-(and 3-)(Hydroxymethyl)-benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((3-(2oxopyrrolidin-1-yl)prop-1-ylamino)carbonyl) ethenyl)phenyl]sulfide; (3-Hydroxymethyl)-benzodioxan-6-yl)[2-nitro-4-(E-((3-(2-oxopyrrolidin-1-yl)prop-1ylamino)carbonyl) ethenyl)phenyl]sulfide; (Benzodioxan-6-yl)[2-chloro-4-(E-((3-carboxypiperidin-1-yl)carbonyl)ethenyl) phenyl]sulfide; (2-(and 3-)(Aminomethyl)-benzodioxan-6-yl)[2-trifluoromethyl-4-(E-((3-(2-oxopyrrolidin-1-yl)prop-1-ylamino)carbonyl) ethenyl)phenyl]sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(methylaminocarbonyl)morpholin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(hydroxymethyl)morpholin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

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(2-Isopropylphenyl)[2-nitro-4-(E-((3-(acetoxymethyl)morpholin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(aminomethyl)morpholin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((3-(acetamidomethyl)morpholin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-chloro-4-(E-((3-(2-oxopyrrolidin-1-yl)prop-1-ylamino)carbonyl) ethenyl)phenyl]sulfide; (Benzodioxan-6-yl)[2-chloro-4-(E-((3-carboethoxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-chloro-4-(E-((2-carboethoxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide; (2-Methoxyphenyl)-[2,3-dichloro-4-(E-[(morpholin-1-yl)carbonyl]ethenyl)phenyl] sulfide; (2-Methoxyphenyl)-[2,3-dimethyl-4-(E-[(morpholin-1-yl)carbonyl]ethenyl)phenyl] sulfide; (2-Isopropylphenyl)[2-nitro-4-(E-((indol-5-ylamino)carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-chloro-4-(E-((3-carboxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-chloro-4-(E-((3-(tetrazol-5-yl)piperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-chloro-4-(E-((4-(tert-butoxycarbonyl)piperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-chloro-4-(E-((2-carboxypiperidin-1-yl) carbonyl)ethenyl) phenyl

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sulfide;

 $\label{eq:continuous} \begin{tabular}{l} (Benzodioxan-6-yl)[2-chloro-4-(E-((3-(tetrazol-5-yl)morpholin-1-yl) carbonyl)ethenyl) \\ phenyl] sulfide; \\ (Benzodioxan-6-yl)[2-chloro-4-(E-((4-(methylaminocarbonyl)piperazin-1-yl) \\ \end{tabular}$

carbonyl)ethenyl) phenyl] sulfide;

(2-Methoxyphenyl)-[2,3-dichloro-4-(*E*-[(4-carboxypiperidin-1-yl)carbonyl]ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-chloro-4-(*E*-((4-(tetrazol-5-yl)piperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(2-Methoxyphenyl)-[3-chloro-4-(*E*-[(morpholin-1-yl)carbonyl]ethenyl)phenyl]sulfide; (2-Isopropylphenyl)[2-nitro-4-(*E*-((4-oxopiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl)[2-trifluoromethyl-4-(*E*-((3-*R*-carboethoxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-trifluoromethyl-4-(*E*-((3-*R*-carboxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2,3-dichloro-4-(E-((3-(2-oxopyrrolidin-1-yl)prop-1-ylamino)carbonyl) ethenyl)phenyl]sulfide;

(Benzodioxan-6-yl)[2,3-dichloro-4-(*E*-((4-acetylpiperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2,3-dichloro-4-(*E*-((3-carboethoxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2,3-dichloro-4-(*E*-((4-carboethoxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

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(Benzodioxan-6-yl)[2,3-dichloro-4-(E-((3-carboxypiperidin-1-yl) carbonyl)ethenyl)
phenyl] sulfide;
(Benzodioxan-6-yl)[2,3-dichloro-4-(E-((4-carboxypiperidin-1-yl) carbonyl)ethenyl)
phenyl] sulfide;
(2-Isopropylphenyl)[2,3-dichloro-4-(E-((3-(2-oxopyrrolidin-1-yl)propylamino)
carbonyl)ethenyl) phenyl] sulfide;
(2-Isopropylphenyl)[2,3-dichloro-4-(E-((4-acetylpiperazin-1-yl) carbonyl)ethenyl) phenyl]
sulfide;
(2-Isopropylphenyl)[2,3-dichloro-4-(E-((3-carboethoxypiperidin-1-yl) carbonyl)ethenyl)
phenyl] sulfide;
(2-Isopropylphenyl)[2,3-dichloro-4-(E-((4-carboethoxypiperidin-1-yl) carbonyl)ethenyl)
phenyl] sulfide;
(2-Isopropylphenyl)[2,3-dichloro-4-(E-((3-carboxypiperidin-1-yl) carbonyl)ethenyl)
phenyl] sulfide;
(2-Isopropylphenyl)[2,3-dichloro-4-(E-((4-carboxypiperidin-1-yl) carbonyl)ethenyl)
phenyl] sulfide;
(1-Methylindol-5-yl)[2,3-dichloro-4-(E-((3-carboethoxypiperidin-1-yl) carbonyl)ethenyl)
phenyl] sulfide;
(1-Methylindol-5-yl)[2,3-dichloro-4-(E-((3-carboxypiperidin-1-yl) carbonyl)ethenyl)
phenyl] sulfide;
`a/c1-Methylindol-5-yl)[2,3-dichloro-4-(E-((4-carboethoxypiperidin-1-yl) carbonyl)ethenyl)
phenyl] sulfide;
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(1-Methylindol-5-yl)[2,3-dichloro-4-(*E*-((4-carboxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(2-Ethoxyphenyl)-[2,3-dichloro-4-(*E*-[(4-carboxypiperidin-1-yl)carbonyl]ethenyl) phenyl] sulfide;

(2-Ethoxyphenyl)-[2,3-dichloro-4-(*E*-[(morpholin-1-yl)carbonyl]ethenyl)phenyl] sulfide;

(2-Ethoxyphenyl)-[2,3-dichloro-4-(*E*-[(3-carboxypiperidin-1-yl)carbonyl]ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((3-carboethoxypyrrolidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((3-carboxypyrrolidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2,3-difluoro-4-(*E*-((3-carboethoxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2,3-difluoro-4-(*E*-((3-carboxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2,3-difluoro-4-(*E*-((4-carboxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-trifluoromethyl-4-(*E*-((3-ethoxycarbonylpyrrolidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-trifluoromethyl-4-(*E*-((3-carboxypyrrolidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Methoxyphenyl)[2-chloro-3-trifluoromethyl-4-(E-((4-carboethoxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

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(2-Methoxyphenyl)[2-chloro-3-trifluoromethyl-4-(E-((4-carboxypiperidin-1yl)carbonyl)ethenyl) phenyl] sulfide; (2-Methoxyphenyl)[2-chloro-3-trifluoromethyl-4-(E-((morpholin-1-yl)carbonyl)ethenyl) phenyl] sulfide; (Benzodioxan-6-yl) [4-(E-((4-carboxypiperidin-1-yl) carbonyl)ethenyl)naphthyl] sulfide; (2-Methoxyphenyl) [2,3-dichloro-4-(E-((4-2,4-dioxo-1,3,8-triazaspiro[4.5])-piperidin-1yl)carbonyl)ethenyl)phenyl] sulfide; (2-Methoxyphenyl)[2,3-dichloro-4-(E-((4-ethylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide; (2-Isopropylphenyl)[2,3-dichloro-4-(E-((4-(2-(2-hydroxyethoxy)ethyl)piperazin-1vI)carbonyI)ethenyI)phenyI] sulfide; (Benzodioxan-6-yl)[2,3-bis(trifluoromethyl)-4-(E-((4-carboxypiperidin-1vI)carbonyl)ethenyl)phenyl]sulfide; (2-Methoxyphenyl) [2,3-dichloro-4-(E-((4-(carboxymethylamino)carbonyl-piperidin-1vI)carbonyI)ethenyI)phenyI] sulfide; (2-Methoxyphenyl) [2,3-bis(trifluoromethyl)-4-(E-((4-carboxymethylpiperazin-1-yl) carbonyl)ethenyl)phenyl]sulfide; (2-Methoxyphenyl) [2,3-bis(trifluoromethyl)-4-(E-((4-N-(2-hydroxyethyl)piperazin-1yl)carbonyl)ethenyl)phenyl]sulfide; (1-Methylindol-5-yl) [2,3-dichloro-4-(E-((4-(carbo-2,3-dihydroxypropylamino)piperidin-1yl)carbonyl)ethenyl)phenyl] sulfide; \(2-Methoxyphenyl) [2,3-dichloro-4-(E-(4-(2,3-dihydroxypropionyl)piperazin-1-

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yl)carbonyl)ethenyl)phenyl] sulfide;

(2-Methoxyphenyl) [2,3-dichloro-4-(E-(4-(2,3-dihydroxy-3-carboxypropionyl)piperazin-1yl)carbonyl)ethenyl)phenyl] sulfide; (1-Methylindol-5-yl) [2,3-dichloro-4-(E-((4-(carboxymethylamino)carbonyl-piperidin-1yl)carbonyl)ethenyl)phenyl] sulfide; (1-Methylindol-5-yl) [2,3-dichloro-4-(E-((4-sulfopiperidin-1-yl)carbonyl)ethenyl)phenyl] sulfide; (1-Methylindol-5-yl) [2,3-dichloro-4-(E-(4-methylhomopiperazin-1ylcarbonyl)ethenyl)phenyl] sulfide; (1-Methylindol-5-yl) [2,3-dichloro-4-(E-(4-tetrahydrofuroylpiperazin-1yl)carbonyl)ethenyl)phenyl] sulfide; (Benzodioxan-6-yl)[2-(benzodioxan-6-sulfanyl)-4-(E-((4morpholino)carbonyl)ethenyl)phenyl]sulfide; (2-Methoxyphenyl) [2,3-dichloro-4-(E-((4-amino-4-carboxypiperidin-1vI)carbonyI)ethenyI)phenyI] sulfide; (2-Methoxyphenyl)[2,3-dichloro-4-((4-furoylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide: (1-Methylindol-5-yl) [2,3-dichloro-4-(E-(4-(carbo-3-sulfopropylamino)piperadin-1yl)carbonyl)ethenyl)phenyl] sulfide; (2-Methoxyphenyl)[2,3-dichloro-4-(E-(4-acetylamino-4-carboxypiperidin-1ylcarbonyl)ethenyl)phenyl] sulfide; (2-Methoxyphenyl) [2,3-bis(trifluoromethyl)-4-(E-((4-carboxypiperidin-1yl)carbonyl)ethenyl)phenyl]sulfide;

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(2-Methoxyphenyl) 5-[8-(E-((4-(aminocarbonyl)piperidin-1-
yl)carbonyl)ethenyl)quinolinyl]sulfide;
(2-Methoxyphenyl) [2-trifluoromethyl-4-(E-((4-carboxypiperidin-1-
yl)carbonyl)ethenyl)phenyl]sulfide;
(1-Methylindol-5-yl)[2,3-dichloro-4-(E-(((1S,4S)-5-tert-butyloxycarbonyl-2,5-
diazabicyclo(2.2.1)heptan-2-yl)carbonyl)ethenyl)phenyl]sulfide;
(1-Methylindol-5-yl) [2,3-dichloro-4-(E/Z-((1S,4S)-2,5-diazabicyclo(2.2.1)heptan-2-
ylcarbonyl)ethenyl)phenyl] sulfide;
(1-Methylindol-5-yl) [2,3-dichloro-4-(E-(4-hydroxy-3-carboxypiperidin-1-
ylcarbonyl)ethenyl)phenyl] sulfide;
(1-Methylindol-5-yl) [2,3-dichloro-4-(E-(S-oxothiomorpholin-1-ylcarbonyl)ethenyl)phenyl]
sulfide;
(2-Methoxyphenyl) [2,3-dichloro-4-(E-((4-sulfophenylamino)carbonyl)ethenyl)phenyl]
sulfide:
(2-Methoxyphenyl) [2,3-dichloro-4-(E-((4-carboxyphenylamino)carbonyl)ethenyl)phenyl]
sulfide;
[3-(4-Morpholino)phenyl] [2,3-dichloro-4-(E-[(4-carboxypiperidin-1-
vI)carbonyl]ethenyl)phenyl] sulfide;
(2-Methoxyphenyl)[2,3-bis(trifluoromethyl)-4-(E-((4-phenylcarboxypiperidin-1-
yl)carbonyl)ethenyl)phenyl]sulfide;
(2-Methoxyphenyl) [2,3-dichloro-4-(E-(((4-hydroxylaminocarbonyl)piperidin-1-
vI)carbonyI)ethenyI)phenyI] sulfide;
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(2-Methoxyphenyl) [2,3-dichloro-4-(E-((N-carboxymethyl-Nphenylamino)carbonyl)ethenyl)phenyl] sulfide; (2-Methoxyphenyl) [3-chloro-6-hydroxy-4-(E-((3-carboxypiperidin-1yl)carbonyl)ethenyl)phenyl]sulfide; (2-Methoxyphenyl) [2,3-dichloro-4-(E-(4-((1-(2-phenyl-1carboxyethyl)amino)carbonyl)piperidin-1-yl)carbonyl)ethenyl)phenyl]sulfide; (2-Methoxyphenyl) [2,3-dichloro-4-(*E*-(4-((1-(2-hydroxy-1carboxyethyl)amino)carbonyl)piperidin-1-yl)carbonyl)ethenyl)phenyl]sulfide; (3-(1-(3-Carboxypiperidinyl)phenyl)[2,3-dichloro-4-(E-((1,2,5,6-tetrahydropyridin-1yl)carbonyl)ethenyl)phenyl]sulfide; (3-(4-Pyrrolidin-1-yl)piperidin-1-yl)phenyl) [2,3-dichloro-4-(E-(((3-(2-oxopyrrolidin-1yl)propylamino)carbonyl)ethenyl)phenyl]sulfide; [3-(4-(Spiro-2,2-dioxolanyl)piperidin-1-yl)phenyl] [2,3-dichloro-4-(E-((4morpholinyl)carbonyl)ethenyl)phenyl]sulfide; [3-(3-Carboxylpiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-[(4-carboxypiperidin-1yl)carbonyl]ethenyl)phenyl] sulfide; (2-(2-Carboxy)ethenyl)phenyl) [2,3-dichloro-4-(E-((4morpholinyl)carbonyl)ethenyl)phenyl]sulfide; [3-(4-Carboxylpiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-[(1,2,3,6-tetrahydropyridin-1yl)carbonyl]ethenyl)phenyl] sulfide; [3-(4-Carboxylpiperidinyl)phenyl] [2,3-dichloro-4-(E-[(4morpholinyl)carbonyl]ethenyl)phenyl] sulfide;

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[2-(4-Acetylpiperazin-1-yl)phenyl] [2,3-dichloro-4-(E-[(4-carboxypiperidin-1yl)carbonyl]ethenyl)phenyl] sulfide; 3-(3-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-[(4morpholinyl)carbonyl]ethenyl)phenyl] sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-[(4-(dimethylaminosulfamoyl)piperazin-1-yl)carbonyl]ethenyl)phenyl] sulfide; (2-Methoxyphenyl)[2,3-bis(trifluoromethyl)-4-(E-((3-carboxypiperidin-1yl)carbonyl)ethenyl)phenyl]sulfide; (2-Methoxyphenyl) [2,3-bis(trifluoromethyl)-4-(E-((2-carboxypyrrolidin-1yl)carbonyl)ethenyl)phenyl]sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-((4-((trifluoromethylsulfonyl)piperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide; (2-Methoxyphenyl)[2,3-dichloro-4-(E-(piperidin-1-ylcarbonyl)ethenyl)phenyl] sulfide; (2-Hydroxyphenyl) [2,3-dichloro-4-(E-((4-morpholino)carbonyl)ethenyl)phenyl]sulfide; (2-Methoxyphenyl) [2,3-dichloro-4-(E-((((4carboxyphenyl)methyl)amino)carbonyl)ethenyl)phenyl]sulfide; (2-Methoxyphenyl) [2,3-dichloro-4-(E-(((4-pyrrolidin-1-yl)piperidin-1yl)carbonyl)ethenyl)phenyl]sulfide; (2-Hydroxyphenyl)[2,3-dichloro-4-(E-((4- carboxypiperidin-1yl)carbonyl)ethenyl)phenyl]sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-((4-((methylsulfonyl)piperazin-1yl)carbonyl)ethenyl)phenyl] sulfide;

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(2-Aminophenyl) [2,3-dichloro-4-(E-((4-morpholinyl)carbonyl)ethenyl)phenyl] sulfide; (3-(4-carboxypiperidin-1-yl)phenyl)[2,3-dichloro-4-(E-((S-oxothiomorpholin-1yl)carbonyl)ethenyl)phenyl] sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-((4-hydroxypiperidin-1yl)carbonyl)ethenyl)phenyl] sulfide; (2-Glycoxyphenyl) [2,3-dichloro-4-(E-((4-morpholino)carbonyl)ethenyl)phenyl]sulfide; (2-(4-Butyroxy)phenyl)[2,3-dichloro-4-(E-((4-morpholino)carbonyl)ethenyl)phenyl]sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-((4-hydroxyethylpiperazin-1yl)carbonyl)ethenyl)phenyl] sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-((4-furoylpiperazin-1vI)carbonyl)ethenyl)phenyl] sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-((pyrrolidin-1yl)carbonyl)ethenyl)phenyl] sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-((diethylaminocarbonyl)ethenyl)phenyl] sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-((4-ethylpiperazinyl)carbonyl)ethenyl)phenyl] sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-((4-(aminocarbonyl)piperidin-1yl)carbonyl)ethenyl)phenyl] sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(E-((4-(2-(ethoxyethyl)piperidin-1-

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yl)carbonyl)ethenyl)phenyl] sulfide;

[3-((4-Carboxymethyl)piperazin-1-yl)phenyl] [(2,3-dichloro-4-(E-(4morpholinyl)carbonyl)ethenyl)phenyl] sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-bis(trifluoromethyl)-4-(E-((4morpholino)carbonyl)ethenyl)phenyl]sulfide; (3-Hydroxyphenyl) [2,3-dichloro-4-(E-((4-morpholino)carbonyl)ethenyl)phenyl]sulfide; [3-(4-Butyroxy)phenyl] [2,3-dichloro-4-(E-((4morpholino)carbonyl)ethenyl)phenyl]sulfide; (2-Hydroxyphenyl) [2,3-bis(trifluoromethyl)-4-(E-((4morpholino)carbonyl)ethenyl)phenyl]sulfide; (3-Hydroxyphenyl)[2,3-bis(trifluoromethyl)-4-(E-((4morpholino)carbonyl)ethenyl)phenyl]sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-bis(trifluoromethyl-4-(E-((4-hydroxypiperidin-1yl)carbonyl)ethenyl)phenyl] sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-bis(trifluoromethyl-4-(E-((1,2,5,6tetrahydropyridin-1-yl)carbonyl)ethenyl)phenyl] sulfide; [2-((4-Carboxy)butyloxy)phenyl] [2,3-dichloro-4-(E-((4morpholino)carbonyl)ethenyl)phenyl]sulfide; (2-Glycoxyphenyl) [2,3-bis(trifluoromethyl)-4-(E-((4morpholino)carbonyl)ethenyl)phenyl]sulfide; (2-(4-Butyroxy)phenyl)[2,3-bis(trifluoromethyl)-4-(E-((4morpholino)carbonyl)ethenyl)phenyl]sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-bis(trifluoromethyl)-4-(E-((bis-(2-

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ethoxyethyl)amino)carbonyl)ethenyl)phenyl] sulfide;

[3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-bis-(trifluoromethyl)-4-(*E*-((bis-(2-hydroxypropyl)amino)carbonyl)ethenyl)phenyl] sulfide; [3-(4-Carboxypiperidin-1-yl)phenyl] [2,3-bis-(trifluoromethyl)-4-(*E*-((piperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;

(3-(4-Butyroxy)phenyl)[2,3-bis(trifluoromethyl)-4-(E-((4-morpholino)carbonyl)ethenyl)phenyl]sulfide;

[2-(3-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(*E*-[(3-(2-oxopyrrolidin-1-yl)propylaminocarbonyl)ethenyl)phenyl] sulfide;

[2-(3-Carboxypiperidin-1-yl)phenyl] [2,3-bis(trifluoromethyl)-4-(*E*-[(3-(2-oxopyrrolidin-1-yl)propylaminocarbonyl)ethenyl)phenyl] sulfide;

[2-(3-Carboxypiperidin-1-yl)phenyl] [2,3-dichloro-4-(*E*-((4-(2-hydroxyethyl)piperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;

[2-(3-Carboxypiperidin-1-yl)phenyl] [2,3-bis(trifluoromethyl)-4-(*E*-((1,2,5,6-tetrahydropyridin-1-yl)carbonyl)ethenyl)phenyl] sulfide;

[2-(3-Carboxypiperidin-1-yl)phenyl] [2,3-bis(trifluoromethyl)-4-(*E*-((4-(2-hydroxyethyl)piperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;

[2-(3-Carboxypiperidin-1-yl)phenyl] [2,3-bis(trifluoromethyl)-4-(*E*-((4-(2-(hydroxyethoxy)ethyl)piperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide; and

(3-(3-Propioxy)phenyl) [2,3-dichloro-4-(E-((4-

morpholino)carbonyl)ethenyl)phenyl]sulfide.

- 13. (Original) A compound according to Claim 1 selected from the group consisting of:
- (2-Formylphenyl)[2-nitro-4-(E-((4-acetylpiperazin-1-yl)carbonyl)ethenyl)phenyl] sulfide;

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(2-Ethoxyphenyl)-[2-chloro-4(E-[(morpholin-1-yl)carbonyl]ethenyl)phenyl]sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((3-dimethylaminocarbonyl-4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((4-methoxycarbonylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Ethoxyphenyl)[2-trifluoromethyl-4-(*E*-((2-carboxy-4-(methoxycarbonyl)piperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Ethyl-4-bromophenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide:

(3-Morpholinophenyl)[2-nitro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((3-carboethoxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2-nitro-4-(*E*-((3-(2-oxopyrrolidin-1-yl)prop-1-ylamino) carbonyl)ethenyl) phenyl] sulfide

(2-(Hydroxymethyl)-benzodioxan-6-yl)[2-chloro-4-(*E*-((4-acetylpiperazin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-trifluoromethyl-4-(*E*-((3-carboxypyrrolidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-trifluoromethyl-4-(*E*-((4-carboethoxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-trifluoromethyl-4-(*E*-((2-carbomethoxy-4-methoxycarbonylpiperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

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(Benzodioxan-6-yl)[2-trifluoromethyl-4-(*E*-((2-carbomethoxypiperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-chloro-4-(*E*-((4-(methylaminocarbonyl)piperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(2-Methoxyphenyl)-[2,3-dichloro-4(*E*-[(4-carboxypiperidin-1-yl)carbonyl]ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2-trifluoromethyl-4-(*E*-((3-*R*-carboethoxypiperidin-1-yl)carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2,3-dichloro-4-(E-((3-(2-oxopyrrolidin-1-yl)prop-1-ylamino)carbonyl) ethenyl)phenyl]sulfide;

(Benzodioxan-6-yl)[2,3-dichloro-4-(*E*-((4-acetylpiperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2,3-dichloro-4-(*E*-((3-carboethoxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2,3-dichloro-4-(*E*-((4-carboethoxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2,3-dichloro-4-(*E*-((3-carboxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(Benzodioxan-6-yl)[2,3-dichloro-4-(*E*-((4-carboxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2,3-dichloro-4-(*E*-((4-acetylpiperazin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

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(2-Isopropylphenyl)[2,3-dichloro-4-(E-((3-carboethoxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2,3-dichloro-4-(E-((3-carboxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(2-Isopropylphenyl)[2,3-dichloro-4-(*E*-((4-carboxypiperidin-1-yl) carbonyl)ethenyl) phenyl] sulfide;

(2-Methoxyphenyl) [2,3-dichloro-4-(E-((4-(carboxymethylamino)carbonyl-piperidin-1yl)carbonyl)ethenyl)phenyl] sulfide;

(2-Methoxyphenyl) [2,3-bis(trifluoromethyl)-4-(E-((4-carboxymethylpiperazin-1-yl) carbonyl)ethenyl)phenyl]sulfide; and

(2-Methoxyphenyl) [2,3-bis(trifluoromethyl)-4-(E-((4-N-(2-hydroxyethyl)piperazin-1yl)carbonyl)ethenyl)phenyl]sulfide.

- 14. (Previously Amended) A compound according to Claim 1 where Ar is methoxyphenyl or isopropylphenyl.
- (Previously Amended) A compound according to Claim 1 where Ar is benzodioxan or substituted benzodioxan.
- 16. (Previously Amended) A compound according to Claim 1 where R₃ is a "transcinnamide"; and Ar is an unsubstituted aryl, unsubstituted heteroaryl, substituted aryl, or substituted heteroaryl group selected from 1,3-benzimidazol-2-one, 1,4-benzodioxane,

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1,3-benzodioxole, 1-benzopyr-2-en-4-one, indole, isatin, phenyl, 1,3-quinazolin-4-one, and quinoline.

- 17. (Previously Amended) A compound according to Claim 1 where R₁₀ and R₁₁ are each independently selected from hydrogen, alkyl, cycloalkyl, alkoxycarbonylalkyl, hydroxyalkyl, and heterocyclylalkyl.
- 18. (Previously Amended) A compound according to Claim 1 where R_{10} and R_{11} are taken together with N to form an unsubstituted heterocyclyl or substituted heterocyclyl group.
- 19. (Original) A pharmaceutical composition comprising a compound of Claim 1 in a pharmaceutically-acceptable carrier.
- 20. (Previously Amended) A method of inhibiting inflammation comprising the administration of a compound of Claim 1 to a mammal in need of treatment for an inflammatory disorder.
- 21. (Previously Amended) A method of inhibiting inflammation comprising the administration of a composition of Claim 19 to a mammal in need of treatment for an inflammatory disorder.

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- 22. (Previously Amended) A method of suppressing immune response comprising the administration of a compound of Claim 1 to a mammal in need of treatment for an immune response disorder.
- 23. (Previously Amended) A method of suppressing immune response comprising the administration of a composition of Claim 19 to a mammal in need of treatment for an immune response disorder.

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(Previously Amended) A compound of formula II

where R₁ and R₂ are each independently selected from

- a. hydrogen,
- b. halogen,
- c. alkyl,
- d. haloalkyl,
- e. alkoxy,
- f. cyano,
- g. nitro, and
- h. carboxaldehyde.

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- 25. (Previously Amended) A process for preparing a compound according to claim 24, comprising
 - a) reacting a compound of formula II'

where R_1 and R_2 are defined as in Claim 24 with lithium hydroxide, and b) cleaving the resulting methyl ether.

26. (Previously Amended) A compound according to Claim 1 with the proviso that when three of R_1 , R_2 , R_4 , and R_5 are hydrogen, then the remaining R_1 , R_2 , R_4 , or R_5 is not carboxyl, 5-tetrazolyl, hydroxymethyl or carboxyl derivatized in the form of a pharmaceutically acceptable ester.

27. (Original) A compound according to Claim 1 where R_1 is haloalkyl; R_2 is haloalkyl; R_3 is "trans-cinnamide"; R_8 is hydrogen; R_9 is hydrogen; R_{10} and R_{11} are taken together with N to form an unsubstituted or substituted heterocyclyl group; R_4 is hydrogen; R_5 is hydrogen; and Ar is a substituted aryl, substituted with a substituted heterocyclyl.

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(28. (Original) A compound according to Claim 1 where R_1 is trifluoromethyl; R_2 is trifluoromethyl; R_3 is "trans-cinnamide"; R_8 is hydrogen; R_9 is hydrogen; R_{10} and R_{11} are taken together with N to form an unsubstituted or substituted heterocyclyl group; R_4 is hydrogen; R_5 is hydrogen; and Ar is a substituted phenyl, substituted with a substituted piperidine.

29. (Original) A compound according to Claim 1 where R_3 is a "trans-cinnamide."

30. (Original) A compound according to Claim 1 where R_3 is a "trans-cinnamide" and R_8 , or R_9 , or both R_8 and R_9 are hydrogen.

31. (Original) A compound according to Claim 1 where R_1 , or R_2 , or both R_1 and R_2 are haloalkyl.

32. (Original) A compound according to Claim 1 where R_1 , or R_2 , or both R_1 and R_2 are trifluoromethyl.

33. (Original) A compound according to Claim 1 where Ar is a substituted aryl group.

(Original) A compound according to Claim 1 where Ar is a substituted phenyl group, substituted with a substituted heterocyclyl.

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- 35. (Original) A compound according to Claim 1 where Ar is a substituted phenyl group, substituted with a substituted piperidine.
- 36. (Original) A compound according to Claim 1 where R₁₀ and R₁₁ are taken together with N to form an unsubstituted heterocyclyl or substituted heterocyclyl group selected from an unsubstituted morpholino or a substituted morpholino.
- 37. (Currently Amended) A substituted diaryl sulfide cinnamide compound, or a pharmaceutically-acceptable salt or prodrug thereof, the compound comprising:

an unsubstituted aryl, unsubstituted heteroaryl, substituted aryl, or substituted heteroaryl group;

a phenyl group; and

a sulfur atom directly linking the phenyl group and the unsubstituted aryl, unsubstituted heteroaryl, substituted aryl, or substituted heteroaryl group,

where the phenyl group is substituted with i) a cinnamide group placed *para*- to the linking sulfur atom; and ii) one or more than <u>at least</u> one substituent other than hydrogen.

(Original) A compound according to Claim 37 represented by formula III,

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$$Ar \xrightarrow{S} \xrightarrow{R_1} \xrightarrow{R_2} \xrightarrow{R_3}$$

or a pharmaceutically-acceptable salt or prodrug thereof, where

Ar is independently selected from unsubstituted aryl, unsubstituted heteroaryl, substituted aryl, or substituted heteroaryl;

 R_1 , R_2 , R_4 , and R_5 are each independently selected from <u>hydrogen</u>, halogen, alkyl, haloalkyl, alkoxy, cyano, nitro, carboxaldeyde, and heterocyclylsulfonyl; and R_3 is a cinnamide.

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- 39. (Currently Amended) A compound according to Claim 37 where the phenyl group is substituted with one or more than at least one haloalkyl group.
- 40. (Original) A compound according to Claim 37 comprising a substituted aryl or substituted heteroaryl group where the substituted aryl or the substituted heteroaryl group is substituted with substituted heterocyclyl.
- 41. (Original) A compound according to Claim 37 where the nitrogen of the amide of the cinnamide group is a ring atom of an unsubstituted heterocyclyl or substituted heterocyclyl group.

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- 42. (Original) A compound according to Claim 37 where the phenyl group is substituted with two haloalkyl groups and the nitrogen of the amide of the cinnamide group is a ring atom of an unsubstituted heterocyclyl or substituted heterocyclyl group.
- 43. (Original) A compound according to Claim 37 comprising a substituted aryl group, where the substituted aryl group is a substituted phenyl group, substituted with a substituted piperidine; the phenyl group is substituted with two trifluoromethyl groups; and the nitrogen of the amide of the cinnamide group is a ring atom of a morpholino group.
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- 44. (Canceled)
- 45. (Original) A compound according to Claim 37 where the compound demonstrates inhibitory activity in an ICAM-1/LFA-1 biochemical interaction assay of about 50 percent at 4 μM.
- 46. (Original) A compound according to Claim 37 where the compound demonstrates inhibitory activity in an ICAM-3/JY-8 cell adhesion assay of about 100 percent at 0.6 μM.
- 47. (Currently Amended) A pharmaceutical composition comprising a substituted diaryl sulfide cinnamide compound, or a pharmaceutically-acceptable salt or prodrug thereof, and one or more than at least one pharmaceutically acceptable carriers, the compound comprising:

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an unsubstituted aryl, unsubstituted heteroaryl, substituted aryl, or substituted heteroaryl group;

a phenyl group; and

a sulfur atom directly linking the phenyl group and the unsubstituted aryl, unsubstituted heteroaryl, substituted aryl, or substituted heteroaryl group,

where the phenyl group is substituted with i) a cinnamide group placed *para*- to the linking sulfur atom; and ii) one or more than at least one substituent other than hydrogen.

48. (Original) A method of inhibiting inflammation comprising the administration of a substituted diaryl sulfide cinnamide compound, or a pharmaceutically-acceptable salt or prodrug thereof, to a mammal in need of treatment for an inflammatory disorder, the compound comprising:

an unsubstituted aryl, unsubstituted heteroaryl, substituted aryl, or substituted heteroaryl group;

a phenyl group; and

a sulfur atom directly linking the phenyl group and the unsubstituted aryl, unsubstituted heteroaryl, substituted aryl, or substituted heteroaryl group,

where the phenyl group is substituted with i) a cinnamide group placed *para*- to the linking sulfur atom; and ii) one or more than one substituent other than hydrogen.

49. (Original) A method for the treatment of an inflammatory condition in a subject for which an LFA-1 inhibitor is indicated comprising the administration to the subject of a

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therapeutically effective amount of a substituted diaryl sulfide cinnamide compound, or a pharmaceutically-acceptable salt or prodrug thereof, where the compound, or pharmaceutically acceptable salt or prodrug thereof, binds to the I-domain of LFA-1 in preference to an ICAM.

50. (Original) The method of Claim 49 where the diaryl sulfide cinnamide compound comprises:

an unsubstituted aryl, unsubstituted heteroaryl, substituted aryl, or substituted heteroaryl group;

a phenyl group; and

a sulfur atom directly linking the phenyl group and the unsubstituted aryl, unsubstituted heteroaryl, substituted aryl, or substituted heteroaryl group,

where the phenyl group is substituted with i) a cinnamide group placed *para*- to the linking sulfur atom; and ii) one or more than one substituent other than hydrogen...

51. (Original) The method of Claim 50 where the substituted diaryl sulfide cinnamide comprises a compound of formula III:

$$Ar \xrightarrow{S} \xrightarrow{R_1} \xrightarrow{R_2} \xrightarrow{R_3}$$

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or a pharmaceutically-acceptable salt or prodrug thereof,

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where

Ar is independently selected from unsubstituted aryl, unsubstituted heteroaryl, substituted aryl, or substituted heteroaryl;

 R_1 , R_2 , R_4 , and R_5 are independently selected from hydrogen, halogen, alkyl, haloalkyl, alkoxy, cyano, nitro, carboxaldeyde, and heterocyclylsulfanyl; and R_3 is a cinnamide.

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(Original) A compound which

- (1) binds to the interaction-domain of LFA-1; and
- (2) is
 - (a) a diaryl sulfide comprising first and second aryl groups and a sulfur atom which links the first and second aryl groups and which is connected directly to (i) an aromatic ring in the first aryl group and
 (ii) an aromatic ring in the second aryl group, where
 - (A) the first aryl group is substituted with a cinnamide moiety placed ortho- to the linking sulfur atom; or
 - (B) the first aryl group is substituted with a cinnamide moiety placed para- to the linking sulfur atom and the second aryl group is substituted;

or

(b) a pharmaceutically acceptable salt or prodrug of said diaryl sulfide.

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- 53. (Original) A compound according to Claim 52 where the amide group of the cinnamide moiety is a secondary or tertiary amide.
- 54. (Original) A compound according to Claim 53 where the amide group of the cinnamide moiety is a tertiary amide in which the nitrogen atom of the amide group is part of a heterocyclic ring.
- 55. (Original) A compound according to Claim 52 where the first aryl group comprises one or more substituents in addition to the cinnamide moiety placed ortho-or para- to the linking sulfur atom.
- 56. (Original) A compound according to Claim 52 where the second aryl group comprises one or more substituents.
- 57. (Original) A compound according to Claim 52 where the first aryl group comprises a phenyl group which is substituted in the para--position by a cinnamide group and which optionally comprises one or more other substituents.
- 58. (Original) A compound according to Claim 52 wherein the second aryl group comprises a phenyl group which comprises one or more substituents.
- 59. (Original) A compound according to Claim 52 where each of the first and second aryl groups comprises a phenyl group.

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60. (Original) A compound according to Claim 52 where the first aryl group is a phenyl group substituted with the cinnamide moiety and optionally further substituted with at least one group which is an alkyl, halogen, hydroxy, or alkoxy group, and the second aryl group optionally is substituted with at least one group which is an alkyl, halogen, hydroxy, or alkoxy group.

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